Water Use Efficiency Program Proposal

San Diego County Water Authority

Multi-Load, Coin-Op Clothes Washer Voucher Pilot Project

February 2001

A. Cover Sheet

1. Specify: Urban Water Project

2. Proposal Title: Multi-Load Coin-Op Voucher Pilot Project

3. Principal Applicant: San Diego County Water Authority

4. Contact: Vickie V. Driver, Water Resources Specialist

5. Mailing Address: 3211 Fifth Avenue, San Diego, CA 92103-5718

6. Telephone: (619) 682-4152, after February 23, 2001 call (858) 522-6760

7. Fax: (619) 574-1286, after February 23, 2001call (858) 268-7881

8. E-mail: vdriver@sdcwa.org

9. Funds Requested: $100,000

10. Applicant cost share funds pledged: $175,000

11. Duration: July 1, 2001 to June 30, 2002

12. State Assembly and Senate districts and Congressional district(s) where the project is to be conducted:

    Assembly Districts: 66, 73, 74, 75, 76, 77, 78 and 79
    Senate Districts: 36, 37, 38, 39 and 40
    Congressional Districts: 48, 49, 50, 51 and 52

13. Location and Geographic Boundaries: The San Diego County Water Authority's service area occupies the western one-third of San Diego county from the Mexican border to the Orange and Riverside county lines. See Attachment A.

14. Name and signature of official representing applicant. By signing below. The applicant declares the following:
    _____ the truthfulness of all representations in the proposal;
    _____ the individual signing the form is authorized to submit the application on behalf of the applicant;
    _____ the applicant will comply with the contract terms and conditions identified in Section 11 of this PSP.

_____ _____

Ken Weinberg, Director of Water Resources Date

B. Scope of Work

1. Abstract

The San Diego County Water Authority (Authority) proposes to operate a pilot project to provide $500 vouchers plus a $50 administrative fee for 500 multi-load, coin-operated clothes washers (MLs). The most cost-effective method to implement the pilot project is to operate within the existing Commercial, Industrial, Institutional (CII) Voucher Incentive Program (VIP). The pilot project will provide incentives to Laundromat owners to replace inefficient single, top-load, coin-operated clothes washers (STLs) with highly efficient MLs. Focus groups and the low participation from Laundromat owners in the existing voucher program for single-load, high-efficiency clothes washers (HEWs) indicate that vouchers for MLs are needed in addition to HEWs.

The primary objective is to save water in a cost-effective manner that also meets the needs of the community. MLs have the added benefit of substantial energy savings. Lifetime savings based on a ten-year working life, 5 loads per day, 365 days per year for 500 MLs compared to the same amount of laundry washed in STLs will vary depending on the size and maker of the STL and ML machines. Lifetime savings calculated from manufacturer data and usage information from the Laundromat industry yield the following table of savings per machine:

	35 pound ML	55 pound ML
Water	1.6 Acre Feet (AF)	2.83 AF
Electricity	2,463.8 kilowatts (kWh)	3,759.5 kWh
Gas	13,943.0 Therms	20,823.3 Therms

2. Critical Issues

Water and energy supply and costs are some of the most critical issues facing California. The San Diego regional population is growing at 2% per year and at this writing, the economy is robust. Both factors lead to an increased demand for water and energy at a time when supplies are diminishing from regulatory and market factors. Lack of a reliable supply of water and energy has a severe, negative economic impact on the region.

Water conservation is consistent with the Authority's mission statement to provide a safe and reliable water supply at a reasonable cost. The Authority's Strategic Plan, Water Resources Plan and 2000 Urban Water Management Plan all require full implementation of all applicable Best Management Practices (BMPs) of the Memorandum of Understanding for Urban Water Conservation (MOU) and Efficient Water Management Practices (EWMPs) by Agricultural Water Suppliers in California. The 2000 Urban Water Management Plan states a water conservation goal from BMP Implementation of 93,590 AF by 2020. This pilot project will be one component to meet the goal.

3. Quantifiable Objectives

The Authority has extensive experience managing water conservation projects. With CALFED funds, the project could be expanded to help realize greater water savings sooner than would be provided by our limited local resources. The larger dollar amount will allow financial incentives to provide assistance to more people and will encourage customers to install water and energy efficient washers. Reducing water use is a low cost new water supply. We anticipate the project to begin utilizing grant funding in July 2001. Water savings for the San Diego region could be realized within a few months of the program's expansion.

The proposed pilot project is an urban water management program and not applicable to Quantifiable Objectives for Agricultural Water Use Efficiency.

4. Methods and Procedures

The pilot project will be incorporated into the existing CII VIP. The program is managed by Authority staff and contractor operated. The CII VIP program is a $400,000 per year program with Metropolitan Water District of Southern California (Metropolitan) providing $200,000 and the Authority and its member agencies providing the remaining $200,000. San Diego Gas and Electric (SDG&E) provides an additional $250,000 exclusively for coin-operated clothes washers.

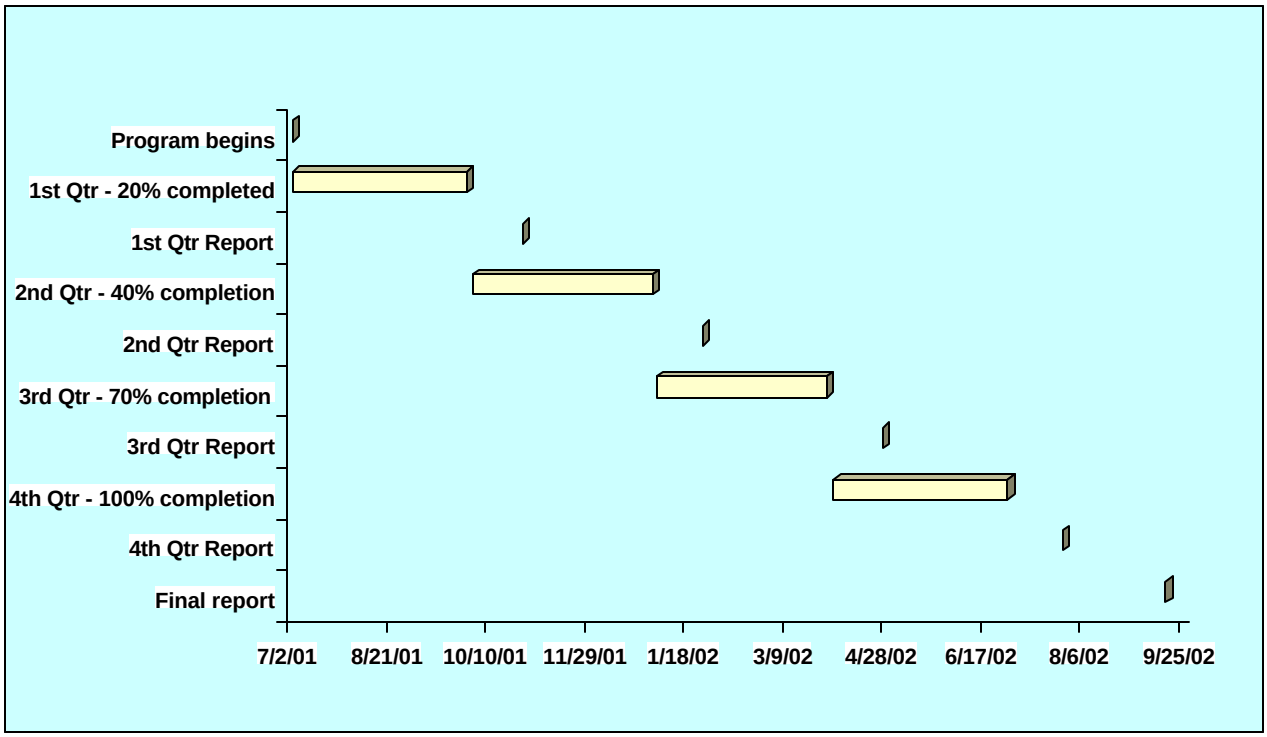
All Authority conservation programs have built-in checks and balances to insure that funds are correctly spent, sites installing devices are inspected and all data related to devices, voucher recipients and savings are entered into a database for tracking. All data is available in paper and electronic format for ease of analysis. All water and energy savings are calculated on a per device basis under normal use conditions.

A feasibility study to determine real life savings from multi-load coin-op washing machines is under development via the Proposition 13 Grants Program. The feasibility study is the logical companion to this pilot project. Upon completion of the feasibility study, the information learned will be combined with the experience gained from the pilot program to further refine the incentive level and marketing for the CII VIP.

5. Schedule

The pilot program will be operated via the Authority's FY 2002 CII VIP that begins July 1, 2001 and ends June 30, 2002. Vouchers will be issued until all 500 vouchers are redeemed or until June 30, 2002. Considering that the program is fully operational, no delays in implementation are expected. Demand is expected to be very high because of the energy crisis, making unredeemed vouchers unlikely. Because of the expiration dates of the vouchers and due dates for the participating dealers to submit invoices, there is about a three month delay from the time vouchers are issued until invoices are submitted to the Authority. The agreement with the program contractor requires monthly invoices, weekly, monthly and quarterly progress reports as well as an

annual report. As with all programs that the Authority manages with co-funding from other agencies, the Authority pays all invoices to the contractor up-front and then invoices all the co-funding partners on a quarterly schedule. The program timeline is shown below.



5. Monitoring and Assessment

The contractor Scope of Work requires weekly voucher reports with more detailed monthly and quarterly status reports plus annual program reports. Additionally, Authority program managers maintain a close working relationship with the program contractors via frequent phone calls, e-mails, inspection ride-alongs and office visits. This pilot program will require 100% inspection of all ML vouchers redeemed to insure installation and to survey the customer.

The Authority also maintains a Quality Control program consisting of frequent, unannounced ride-alongs of inspections and a complete review of all program documentation. Water Resources staff members who are not part of the conservation section perform Quality Control. All invoices are processed by the Authority program manager, reviewed by a supervisor and if over $10,000, reviewed and signed by the department head. The Authority's Finance Department also conducts random audits of various programs each year performed by an independent, outside firm.

All information is retained in paper and electronic format and is provided to all co-funding partners. The Authority is governed by the Public Information Act making all data available upon written request.

C. Outreach and Information Transfer

1. Outreach Efforts

The project benefits low-income individuals in that it will reduce increases in energy, water and sewer costs for Laundromat operators. In the San Diego area, the high cost of housing means that many low-income families live in apartments without in-unit washers and dryers and therefore use Laundromats for all washing needs. This sector is well aware of the benefits of using multi-load machines to quickly take care of family laundry needs. Laundromats will be encouraged to participate in the program to meet this sector's needs through assertive marketing.

New immigrants and small businesses form a significant sector of the Laundromat owners' community and are also the sector with the least capital to invest in new, efficient machines. Vouchers will enable them to remain viable in an industry seriously impacted by high utilities and to continue to serve their low-income customers.

The Authority's contracting process strongly encourages outreach to Emerging Business Enterprises (EBE). Approximately 5% of the current contractor's budget is committed to services provided by EBE subcontractors. A Request for Proposal for the new program is underway now and it will have a similar EBE requirement.

2. Training

This program may provide training and employment opportunities to disadvantaged communities as old machines are removed and new machines are installed.

3. Information Transfer

All information gained from this pilot program will be available to any interested parties. The Authority leads water agencies throughout the State in development of this type of program. Authority programs have provided more vouchers for coin-op HEWs than any other water agency in the State. The ML pilot project is a logical next step to that effort. Over the years, the Authority has consistently shared this information via the California Urban Water Conservation Council (CUWCC), conservation related conferences and numerous informal discussions with water and energy agencies throughout the state and nation.

4. Cooperating Agencies

Metropolitan, Authority member agencies and SDG&E are all co-funders of the existing CII VIP. All have expressed their support of this effort with Metropolitan and SDG&E providing technical expertise and review. The sector most impacted by this program is the Laundromat industry. They have provided their opinions as well as technical and financial data to develop this pilot. The Laundry industry states with no exaggeration at all that their livelihood depends upon becoming as energy and water efficient as possible.

D. Qualifications

1. Project Manager Resumes – See Attachment B.

2. External Cooperators

The existing program is operated by Honeywell DMC Services, Inc. At this time, the Authority is conducting a Request for Proposal to select a contractor for the next three years.

3. Partnerships

Partners in the development and funding of this program are the co-funding agencies for the existing CII VIP. They are: San Diego County Water Authority and its member agencies – Carlsbad Municipal Water District, City of Del Mar, City of Escondido, Fallbrook Public Utility District, Helix Water District, City of Oceanside, Olivenhain Municipal Water District, Otay Water District, Padre Dam Municipal Water District, City of Poway, Rainbow Municipal Water District, Ramona Municipal Water District, Rincon Del Diablo Municipal Water District, City of San Diego, San Dieguito Water District, Santa Fe Irrigation District, Sweetwater Authority, Vallecitos Water District, and Vista Irrigation District. Other partners include Metropolitan Water District of Southern California, and San Diego Gas and Electric.

E. Costs and Benefits

1. Budget Summary

See Attachment C for Budget Summary.

2. Budget Justification

A brief explanation of the justification of each budget component follows.

Voucher - The proposed voucher level is $500 based upon a combination of factors including the cost per AF of water saved, water agency avoided costs, existing co-funding agreements and the costs and benefits of the ML machines to Laundromat

owners. An optimum voucher level will be determined in the future based upon information learned from the proposed Feasibility Study and experience learned from this pilot.

Administrative Fee - The administrative fee was set at $50 per machine based upon the current charges for other devices in the existing program requiring 100% inspection. In addition, the inspector will be required to conduct a brief survey of the Laundromat owner or representative.

Authority Staff Time – The proposed CALFED funding will comprise 13% of the total CII VIP budget, therefore, 13% of the CII VIP Program Manager's time and salary is assessed to the pilot project. The pilot project manager is expected to dedicate 5% of work time to the pilot project. The Quality Control (QC) staff will be required to inspect at least five sites and review 15% of voucher folders relating to the pilot project. QC effort is expect to consume 5 hours for inspection and 7 hours for document review.

3. Benefit Summary and Breakdown

See Attachment D for Summary of Quantified and Non-Quantified Costs and Benefits. The costs and benefits to water agencies are quantified in Attachment B – 2.

San Diego County Water Authority – The Authority's Capital Improvement Plan assumes that all cost-effective water conservation methods are fully implemented. The water savings achieved through all the water conservation efforts including the Multi-Load, Coin-Op Voucher Pilot Project enables the Authority to reduce the size of its facilities accordingly. The Authority's 2000 Urban Water Management Plan sets a water conservation goal 93,590 AF by 2020. This project is one step of many that will enable the Authority to meet that goal.

CALFED – The Multi-Load, Coin-Op Voucher Pilot Project is consistent with CALFED's objectives as identified in the June 9, 2000, Framework for Action and the subsequent Record of Decision. The Authority will use information from the Pilot in conjunction with information learned from the Coin-Op, Multi-Load Clothes Washer Feasibility Study to determine the most effective way to transform the Laundromat market to high-efficiency machines.

During the four years that the Authority has offered vouchers for coin-operated clothes washers, only a few of the $300 vouchers each year were used to purchase multi-load coin-ops. The $300 voucher was insufficient incentive for machines costing $3,000 to $5,000 even though the lifetime utility (water, sewer, gas, electric) savings are significant. The 500 vouchers funded in part by CALFED will enable local water districts to achieve savings and to achieve them much sooner than would have been realized without the additional voucher funding. Lifetime water savings for this project are estimated to be 1,107.5 AF.

Depending on local conditions, between 75 – 95 percent of the water used in San Diego County is imported by the Authority from the Colorado River and Northern California, via the State Water Project. Water saved through the Authority's incentive programs will therefore directly reduce the need for additional imported water supplies from the San Francisco Bay – Sacramento/San Joaquin River Delta (Bay/Delta). The savings represent a net increase in fresh water supplies. Conservation programs developed, as a result of the study will support CALFED's objectives by doing the following:

- Improving water quality for all uses by reducing demands on the Delta during those times of the year when water diversions can contribute to elevated salinity levels;
- Improving and increasing aquatic habitats and ecological functions in the Bay-Delta by reducing the need for water diversions during dry years and dry periods, when the impact diversions on fish are the highest;
- Reducing the mismatch between the Bay/Delta water supplies and current projected beneficial uses by providing a new water supply that can be used to meet a portion of existing and future demands.

Information developed as a result of this study can be applied throughout urban California. This study can also help CALFED's efforts to develop financial incentive program for its Water Use Efficiency Program.

Laundromat Owners – Utility expenses are a major part of the cost of doing business for small businesses such as Laundromat owners. A voucher to purchase more efficient equipment enables Laundromat owners to upgrade in a business sector with little money available for capital outlay. Laundromat owners stated in focus groups that they are aware of the significant utility savings but simply do not have the funding to upgrade. The trend in the laundry industry is to retain small numbers of STLs and replace machines in the remaining floor space with highly efficient multi-loaders. A voucher at a level sufficient to enable the owners to make the changes will greatly accelerate the market transition and achieve savings as early as possible.

Laundromat Customers – Most customers using Laundromats are apartment dwellers, many of whom are in the low to middle income brackets. Customers who routinely use Laundromats realize the benefit of using ML coin-ops to do large amounts of laundry quickly at relatively low cost. MLs save money not only in the vend price of the washer but also for dryers as the clothes spin dryer than SLTs. Another welcome savings is the reduced amount of detergent needed in ML machines.

SDG&E – Kilowatt savings per machine are relatively minor compared to many other commercial and industrial SDG&E customers, however, the number of machines in the total market is large. There are an estimated 200 – 225 Laundromats in the service area with 30 - 35 machines each. Laundromats owners have expressed the goal of replacing one-half of SLTs with MLs making the installation goal about 3,000 MLs.

At this writing, SDG&E is buying natural gas at $1.20/Therm and buying electricity at an average of $0.20 per kilowatt. Although future gas and electric prices are unknown, SDG&E's current avoided cost for the 10-year life of one 35 lb. ML machine $492.76 for electricity and $16,731.60 for natural gas. By comparison, the avoided costs for water is $558.40.

One of the most important benefits of a cooperative effort among water and energy utilities is that neither agency alone can provide a voucher large enough to bring about the desired market changes. Energy and water agencies together provide better service to their mutual customers than either agency alone. Information gained from this program may be easily expanded to similar applications for both energy and water agencies here in San Diego and in other parts of the state.

Attachment B

VICKIE VICK DRIVER

San Diego County Water Authority
3211 Fifth Avenue
San Diego, CA 92103-5718
(619) 682-4152
vdriver@sdcwa.org

Education

- San Diego State University: Candidate - Master of Public Health
  Emphasis: Public and Environmental Health
  Attended Classes Spring, 1986 to Fall, 1990

- Memphis State University - Bachelor of Science in Medical Technology, 1972
  Emphasis: Biology and Chemistry

Work Experience

- San Diego County Water Authority
  Position: Water Resources Specialist, Conservation
  Dates Employed: November, 1990 to Present

Skills

- Strong urban, landscape and agricultural water conservation program management skills;

- Strong analytical skills to evaluate programs and policies;

- Knowledgeable about MOU-BMPs, CALFED process, Title XXII, western water issues, water and wastewater treatment processes and relevant local, state and federal regulations;

- Familiar with public and environmental health issues;

- Computer and statistics literate;

- Strong technical and life science background.

Qualifications

- In my present position, I manage two consultant-operated water conservation programs for 23 member agencies with an annual budget totaling $275,000. In addition to managing the Landscape Water Management and Agricultural Water Management and CIMIS Programs, I coordinate region-wide efforts in irrigation education, Xeriscape and various studies.

- I am responsible for developing cost effective conservation programs that meet the requirements of the MOU - BMPs while meeting the needs of the multiple funding agencies: the San Diego County Water Authority, our member agencies, Metropolitan Water District of Southern California (MWD) and most importantly, the end use customer.

- During the program evolution process, I have developed strong working relationships with our local water agencies, MWD staff, CUWCC member agencies including Department of Water Resources, United States Bureau of Reclamation and local energy, solid waste, sewer and health department staff.

- I have been innovative in researching and developing successful new ideas for water conservation programs such as vouchers for coin-operated, high-efficiency clothes washers and their complex market.

- I have been successful in seeking funding from our local energy utility - SDG&E, the United States Bureau of Reclamation and MWD.

- I am the Authority's representative to the CUWCC Research and Evaluation committee and the Agricultural Water Management Council.

- I take great pride in being a big picture person who is able to visualize the short and long-term effects a program might have on other sectors. I thoroughly enjoy working as a team member to develop solutions for a variety of agencies and markets.

Attachment C
Budget Summary

Item	*Amount*	*Units*	*Qty*	*Total Cost*	*Units*	*Life (years)*	*Present Value*	*Local Share ($)*	*CALFED Request ($)*
a. salaries & wages									
Program Mgmt	20,720	$/year	1	20,720	$/year	1	20,720	20,720	0
Monitoring	600	$/year	1	600	$/year	1	600	600	0
b. fringe benefits included in salary and wages									
c. supplies (none)									
d. equipment									
Multi-load Coin-op HEWs	500	$/machine	500	250,000		10	250,000	159,250	91,000
e. services or consultants									
Program admin	50	$/machine	500	25,000		na	25,000	15,925	9,100
f. travel (none)									
g. other direct costs including planning, design, construction, maintenance, etc. (none)									
h. total estimated costs (a - g)							296,320	195,665	100,000

Attachment D

Summary of Quantified and Non-Quantified Costs and Benefits

Item	*Amount*	*Units*	*Qty*	*Total Cost*	*Units*	*Life (years)*	*Present Value*	*Beneficiary*
Quantified Costs								
Program Mgmt	20,720	$/year	1	20,720	$/year	1	20,720	20,720
Monitoring	600	$/year	1	600	$/year	1	600	600
Multi-Load Coin-op HEWs	500	$/ machine	500	250,000		10	250,000	250,000
Program administration	50	$/ machine	500	25,000		1	25,000	25,000
Quantified Benefits								
Water Savings	1,107.5	acre-foot	$268	$296,320		10		Ratepayers
Non-Quantified Costs See Discussion in Section E. Costs and Benefits								
Non-Quantified Benefits See Discussion in Section E. Costs and Benefits								
Analysis Assumptions – See discussion below.								

Savings Estimates from Manufacturer's Data

- Three of the largest machines will occupy the same space as four SLTs, therefore assume approximately a one-for-one rate of exchange. Floor space is the primary limiting factor in most Laundromats making it difficult to install a new machine unless another machine is removed.
- Multi-load machines have a useful Laundromat life of at least 10 years and are used about 5 times per day.
- Data from the table below is taken from specification sheets provided by Maytag and discussions with Maytag technical staff. Maytag machines were used as they are some of the most commonly installed machines and models from the same maker provide more comparable data. A number of excellent machines by other makers are also on the market.
- Data for single load HEWs is presented to provide perspective as it is the product rejected by Laundromat owners in preference to MLs.
- Pounds of laundry per load were chosen as a basis of comparison rather than tub size as pounds of laundry drive the amount of water required and hence energy.

Single Top Loader and Multi-Loader Comparison

Maytags	Top-Single	Front-Single	35 Pound 2 speed	35 Pound 3 speed	55 Pound 2 speed	55 Pound 3 speed
Pounds Rated	12	14	35	35	55	55
Pounds Typical	7.92	9.24	23.1	23.1	33	33
Tub size In cubic feet	2.5	2.9	5.76	5.76	8.18	8.18
Gallons/Load	31.5	21.5	62.2	62.2	80.9	80.9
Average Hot Water/Load	6.5	2.5	7.5	7.5	10.2	10.2
Therms/Load Hot Water	0.433	0.167	0.500	0.500	0.680	0.680
KWh/Load	0.15	0.1	0.3	0.4	0.42	0.55
RMC %	75	60	73	73	73	73
RMC Pounds	5.9	5.5	16.9	16.9	24.1	24.1
Therms/Dryer	0.128	0.119	0.363	0.363	0.518	0.518

Assumptions for above table:

- The Maytag technician states that the number of pounds of Laundry per load is about 66% of the rated capacity as determined by Maytag studies at Laundromats.
- Therms required for hot water heating is equal to the number of gallons of water x 8.33 pounds of water per gallon x 0.0001Therms required to heat one pound of water one degree. Water temperature coming into the boiler is a year round average temperature of 60 degrees and is heated to 140 degrees for a difference of 80 degrees.
  Example:
  6.5 gal. x 8.33 lbs. water/gal. x 0.0001 Therms x 80 degrees = 0.433 Therms
- Remaining Moisture Content, RMC, is the amount of water remaining in the laundry after all cycles.
- RMC Pounds is the pounds of water remaining in the laundry and is equal to the pounds of laundry x RMC%.
- Therms/Dryer is equal to pounds of water x 2 cubic feet of gas needed to remove one pound of water divided by 93 cubic feet of gas per Therm.
  Example:
  5.9 lbs. water x 2 cf. gas / 93 cf. gas/Therm = 0.128 Therms

Although this proposal is for funding for water savings, given the current energy crisis in the state, the energy savings are as vital as the water savings and are provided here to show the total project benefits.

35 Pound Multi-Loader Example:

23.1 lbs./ 7.92 lbs. = 2.9 single loads

Water:
31.5 gallons/SLT x 2.9 = 91.35 gallons of water required to do the same amount of laundry as one load in a 35 lb. multi-loader
91.35 – 62.2 = 29.15 gallons saved/load
29.15 x 5 loads day x 365 days x 10 years / 325,900 gal/AF =
1.6 AF Lifetime Savings

Electricity:
0.15 kWh per load x 2.9 = 0.435 kWh
0.435 kWh – 0.3 = 0.135 kWh saved/load
0.135 x 5 x 365 x 10 = **2,463.8 kWh Lifetime Savings**

Gas (Therms)
0.433 (washer) + 0.128 (dryer) = 0.561 Therms/STL
0.5 (washer) + 0.363 (dryer) = 0.863 Therms/ML
0.561 x 2.9 = 1.627 Therms
1.67 – 0.863 = 0.764 Therms
0.764 x 5 x 10 x 365 = **13,943.0 Therms Lifetime Savings**

55 Pound Multi-Loader Example:

33 lbs./ 7.92 lbs. = 4.17 single loads

Water:
31.5 gallons/SLT x 4.17 = 131.36 gallons of water required to wash the same amount of laundry as one load in a 55 lb. multi-loader.
131.36 – 80.9 = 50.46 gallons saved/load
50.46 x 5 loads day x 365 days x 10 years / 325,900 gal/AF =
2.83 AF lifetime savings

Electricity:
0.15 kWh per load x 4.17 = 0.626 kWh
0.626 kWh – 0.42 = 0.206 kWh saved/load
0.206 x 5 x 365 x 10 = **3,759.5 kWh Lifetime Savings**

Gas (Therms):
0.433 (washer) + 0.128 (dryer) = 0.561 Therms/STL
0.68 (washer) + 0.518 (dryer) = 1.198 Therms/ML
0.561 x 4.17 = 2.339 Therms
2.339 – 1.198 = 1.141Therms saved/load
1.141 x 5 x 365 x 10 = **20,823.25 Therms Lifetime Savings**

Avoided Cost for Water Agencies

SDCWA:
35 Pound Multi-Loader
1.60 AF Lifetime Savings x $349 (untreated, non-interruptible)/AF = $558.4/machine
55 Pound Multi-Loader
2.83 AF Lifetime Savings x $349/AF = $987.67

Authority Member Agency:
35 Pound Multi-Loader
1.60 AF Lifetime Savings x $434 (untreated, non-interruptible)/AF = $694.40
55 Pound Multi-Loader
2.83 AF Lifetime Savings x $434/AF = $1,228.22

SDG&E:
Given the fluctuations in gas and electricity, SDG&E is unable to provide a precise avoided costs at this time. However, at this writing, they are buying gas at $1.20/Therm and electricity at $0.20 per kilowatt.

35 Pound Multi-Loader
2,463.8 kWh x $0.20/kWh = $492.76
13,943.0 Therms x $1.20/Therm = $16,731.60

55 Pound Multi-Loader
3,759.5 kWh x $0.20.kWh = $751.90
20,823.3 Therms x $1.20 = $24,987.96

Annual Laundromat Owner Savings

Building upon the calculations shown above, a Laundromat owner can expect an annual combined water, sewer, kWh (capped rate) and gas savings of **$2,609.96** from one 35 pound multi-loader compared to the same amount of laundry washed in single, top loaders. Savings from a 55 pound machine are calculated to be **$3,948.42** at the capped rate. Water and sewer rates are from the City of San Diego, the largest retail agency in the region. The calculations are shown below.

35 Pound Multi-Loader

Water:
29.15 gallons x 5 x 365 / 748 gallons per unit x $1.47 per unit = $104.55
Sewer:
29.15 gallons x 5 x 365 / 748 x 0.85 return rate x $1.97 = $119.09
kWh:
0.135 kWh x 5 x 365 x $0.065/kWh capped rate = $16.01
0.135 kWh x 5 x 365 x $0.20/kwh projected annual rate = $49.28

Therms:
0.764 Therms x 5 x 365 x $1.70/Therms = $2,370.31

55 Pound Multi-Loader

Water:
50.46 gallons x 5 x 365 / 748 gallons per unit x $1.47 = $180.98
Sewer:
50.46 gallons x 5 x 365 / 748 x 0.85 return rate x $1.97/unit = $206.15
kWh:
0.206 kWh x 5 x 365 x $0.065/kWh capped = $24.44
0.206 kWh x 5 x 365 x $0.20/kWh uncapped = $75.19
Therms:
1.14 Therms x 5 x 365 x $1.70/Therm = $3,536.85